

REMARKS

The final Office Action dated January 16, 2008, and made final, has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 1-20 stand rejected.

The rejection of Claims 1-3, 8-10, 12-14, and 19 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,127,410 to King, et al. (hereinafter referred to as "King") is respectfully traversed.

King describes an ultrasonic transducer probe (10) that includes an ultrasonic transducer array (16) formed of piezoelectric material and a first lens subassembly that includes a compound lens (20). The transducer array (16) and the compound lens (20) are mounted within a housing (21) that is covered by an epoxy seal (22). Openings (23 and 24) are provided in the housing (21) and the seal (22) to pass ultrasonic signals to an internal body channel (12) of a patient. The openings (23 and 24) are filled and sealed by a plastic film (25) and a backing layer (27). An RFI screen (29) is embedded in the backing layer (27). A small space between the first lens subassembly and a second lens subassembly is filled with a thin layer (31) of a low vapor fluid, such as an oil. Notably, King does not describe or suggest an ultrasonic probe that includes an ultrasonic transceiver unit including an acoustic lens, a first partial enclosure, and a second partial enclosure, wherein the acoustic lens is positioned between and in direct contact with the second partial enclosure and the ultrasonic transceiver unit. Rather, King describes a probe that includes a backing layer positioned between and in direct contact with a plastic film and an RFI screen such that the RFI screen, a housing, a fluid layer, and a first lens subassembly are positioned between the backing layer and the transducer array.

Claim 1 recites an ultrasonic probe including "an ultrasonic transceiver unit comprising an acoustic lens; and an enclosure that encloses the ultrasonic transceiver unit, the enclosure comprising: a first partial enclosure formed of a hard plastic material having an opening at the tip, the ultrasonic transceiver unit extending through the opening; and a second

partial enclosure integrally formed with the first partial enclosure so as to cover the ultrasonic transceiver unit extending through the opening of the first partial enclosure, the second partial enclosure formed of a soft plastic material, the acoustic lens of the ultrasonic transceiver unit positioned between and in direct contact with the second partial enclosure and the ultrasonic transceiver unit.”

King does not describe or suggest an ultrasonic probe, as recited in Claim 1. More specifically, King does not describe or suggest an ultrasonic probe that includes an ultrasonic transceiver unit including an acoustic lens, a first partial enclosure, and a second partial enclosure, wherein the acoustic lens is positioned between and in direct contact with the second partial enclosure and the ultrasonic transceiver unit. Rather, King describes a probe that includes a backing layer positioned between and in direct contact with a plastic film and an RFI screen such that the RFI screen, a housing, a fluid layer, and a first lens subassembly are positioned between the backing layer and the transducer array.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over King.

Claims 2, 3, and 8-10 depend from independent Claim 1. When the recitations of Claims 2, 3, and 8-10 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2, 3, and 8-10 likewise are patentable over King.

Claim 12 recites an enclosure for an ultrasonic transceiver unit, the enclosure including “a first portion comprising a tip, the tip having an opening through which the ultrasonic transceiver unit extends; and a second portion integrally formed with the first portion to cover the opening, the second portion having an inner surface in contact with an acoustic lens of the ultrasonic transceiver unit.”

King does not describe or suggest an enclosure for an ultrasonic transceiver unit, as recited in Claim 12. More specifically, King does not describe or suggest an enclosure for an ultrasonic transceiver unit that includes a second portion integrally formed with a first portion, wherein the second portion has an inner surface in contact with an acoustic lens of

the ultrasonic transceiver unit. Rather, King describes a probe that includes a backing layer positioned between and in direct contact with a plastic film and an RFI screen such that the RFI screen, a housing, a fluid layer, and a first lens subassembly are positioned between the backing layer and the transducer array.

Accordingly, for at least the reasons set forth above, Claim 12 is submitted to be patentable over King.

Claims 13, 14, and 19 depend from independent Claim 12. When the recitations of Claims 13, 14, and 19 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 13, 14, and 19 likewise are patentable over King.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 8-10, 12-14, and 19 be withdrawn.

The rejection of Claims 4-7, 11, 15-18, and 20 under 35 U.S.C. § 103(a) as being unpatentable over King in view of U.S. Patent 5,928,154 to Silber, et al. (hereinafter referred to as “Silber”) is respectfully traversed.

King is described above. Silber describes an ultrasound probe (100) including a probe casing (101) that includes an inner housing (102), a rear housing (103), and a grip layer (104). A transducer lens is positioned at a distal end (106) of the ultrasound probe (100), and a cable assembly (110) is attached to a proximal end (108) of the ultrasound probe (100) for carrying signals between the ultrasound probe (100) and an ultrasound imaging system. The grip layer (104) is formed circumferentially around a substantial portion of a length of the inner housing (102). The grip layer (104) may be a polymeric thermoplastic elastomer in order to provide high friction characteristics that allow for good control of the ultrasound probe (100) with maximized comfort and control in a user’s hand.

Claim 1 recites an ultrasonic probe including “an ultrasonic transceiver unit comprising an acoustic lens; and an enclosure that encloses the ultrasonic transceiver unit, the enclosure comprising: a first partial enclosure formed of a hard plastic material having an opening at the tip, the ultrasonic transceiver unit extending through the opening; and a second

partial enclosure integrally formed with the first partial enclosure so as to cover the ultrasonic transceiver unit extending through the opening of the first partial enclosure, the second partial enclosure being formed of a soft plastic material, the acoustic lens of the ultrasonic transceiver unit positioned between and in direct contact with the second partial enclosure and the ultrasonic transceiver unit.”

Neither King nor Silber, considered alone or in combination, describes or suggests an ultrasonic probe, as recited in Claim 1. More specifically, neither King nor Silber, considered alone or in combination, describes or suggests an ultrasonic probe that includes an ultrasonic transceiver unit including an acoustic lens, a first partial enclosure, and a second partial enclosure, wherein the acoustic lens is positioned between and in direct contact with the second partial enclosure and the ultrasonic transceiver unit. Rather, King describes a probe that includes a backing layer positioned between and in direct contact with a plastic film and an RFI screen such that the RFI screen, a housing, a fluid layer, and a first lens subassembly are positioned between the backing layer and the transducer array, and Silber describes an ultrasound probe that includes a grip layer comprising a polymeric thermoplastic elastomer in order to provide high friction characteristics that allow for good control of the ultrasound probe with maximized comfort and control in a user’s hand.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over King in view of Silber.

Claims 4-7 and 11 depend from independent Claim 1. When the recitations of Claims 4-7 and 11 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 4-7 and 11 likewise are patentable over King in view of Silber.

Claim 12 recites an enclosure for an ultrasonic transceiver unit, the enclosure including “a first portion comprising a tip, the tip having an opening through which the ultrasonic transceiver unit extends; and a second portion integrally formed with the first portion to cover the opening, the second portion having an inner surface in contact with an acoustic lens of the ultrasonic transceiver unit.”

Neither King nor Silber, considered alone or in combination, describes or suggests an enclosure for an ultrasonic transceiver unit, as recited in Claim 12. More specifically, neither King nor Silber, considered alone or in combination, describes or suggests an enclosure for an ultrasonic transceiver unit that includes a second portion integrally formed with a first portion, wherein the second portion has an inner surface in contact with an acoustic lens of the ultrasonic transceiver unit. Rather, King describes a probe that includes a backing layer positioned between and in direct contact with a plastic film and an RFI screen such that the RFI screen, a housing, a fluid layer, and a first lens subassembly are positioned between the backing layer and the transducer array, and Silber describes an ultrasound probe that includes a grip layer comprising a polymeric thermoplastic elastomer in order to provide high friction characteristics that allow for good control of the ultrasound probe with maximized comfort and control in a user's hand.

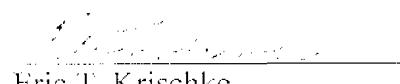
Accordingly, for at least the reasons set forth above, Claim 12 is submitted to be patentable over King in view of Silber.

Claims 15-18 and 20 depend from independent Claim 12. When the recitations of Claims 15-18 and 20 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 15-18 and 20 likewise are patentable over King in view of Silber.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 4-7, 11, 15-18, and 20 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,


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